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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/708,782	11/08/2000	Xiao-Dong Li	13215ROUS01U	2461

7590 02/06/2004

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EXAMINER

SHARMA, SUJATHA R

ART UNIT	PAPER NUMBER
2684	2

DATE MAILED: 02/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/708,782

Applicant(s)

LI ET AL.

Examiner

Sujatha Sharma

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Willars [US 6,507,567].

Regarding claims 1,4,6,9,11,12, Willars discloses a method of efficient handling of connections in a mobile communications network.

Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

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Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Willars further discloses a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16).

Also see Fig. 3

Regarding claims 2,5,10, Willars further discloses a method of partial allocation of RAN resources and remarking the data with a new packet service quality indicator (see col. 3, lines 17-60, col. 10, lines 36-49).

Regarding claim 3,7,13, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claim 8, Willars further discloses a method of notifying a packet data-servicing node (GPRS node in Fig. 1) of a packet service quality level corresponding to an allocated set of RAN resources. (see col. 1, lines 14-39).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14-29,42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars [US 6,507,567].

Regarding claims 14 and 42, Willars further discloses a packet data service node/PDSN (GPRS node in Fig. 1) comprising of a first interface that interfaces PDSN to the packet network/internet (see Fig. 1), and a second interface that interfaces the PDSN to the RAN.

Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Willars further discloses a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (See Figs. 1,3, see col. 2, line 54-col. 3, line 16).

Willars however does not explicitly show the PDSN to comprise of a processor coupled to a processor bus and a memory coupled to the processor via the processor bus.

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The examiner takes official notice that it is well known in the art for the GPRS node to comprise of a processor and a memory coupled to the processor.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the GPRS node in Fig 1 to comprise of these elements namely the processor and the memory coupled to it in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Regarding claim 15, Willars further discloses a method of partial allocation of RAN resources and remarking the data with a new packet service quality indicator (see col. 3, lines 17-60, col. 10, lines 36-49).

Regarding claim 16, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 17,19, Willars further discloses a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

Willars further discloses a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

Regarding claim 18, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator, the new packet service quality level indicator corresponding to the partial set of RAN resources that have been allocated to the mobile station (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 20,22-24 and 43, Willars further discloses a base station controller (RNC in Fig.1) comprising of a first interface that interfaces the RNC to PDSN (GPRS node in Fig. 1), and a second interface that interfaces the BSC to the remaining portions of RAN. See Fig. 1. Willars further discloses a processor in the RNC (SEE Fig. 9) to perform the following:

- a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

- a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

- a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16).

Also see Figs. 1,3.

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Willars however does not explicitly show a memory coupled to the processor via the processor bus.

The examiner takes official notice that it is well known in the art for the RNC to comprise of a processor and a memory coupled to the processor bus.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the RNC in Fig 1 to comprise of the memory coupled to the processor in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Regarding claim 21, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

Regarding claims 25,27-29 and 44, Willars further discloses a packet control function (packet handler 50 in Fig.3) in the base station controller (RNC in Fig.1) comprising of a first interface that interfaces the RNC to PDSN (GPRS node in Fig. 1), and a second interface that interfaces the BSC to the remaining portions of RAN. See Fig. 1. Willars further discloses a processor in the RNC (See Fig. 9) to perform the following:



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-a method of receiving data packet from a packet data network, the data packet directed towards a mobile station serviced by the radio access network (RAN) and including a packet service quality level indicator (see col. 2, lines 13-65).

-a method of mapping the service quality level indicator to a corresponding set of RAN resources (see col. 2, line 54-col. 3, line 16).

-a method of allocating the corresponding set of RAN resources to service the transmission of the data packet to the mobile station and finally forwarding the data packet to the mobile station (see col. 2, line 54-col. 3, line 16).

Willars however does not explicitly show a memory coupled to the processor via the processor bus.

The examiner takes official notice that it is well known in the art for the RNC to comprise of a processor and a memory coupled to the processor bus.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made for the RNC in Fig 1 to comprise of the memory coupled to the processor in order to map the service quality level indicator to corresponding set of RAN resources and allocate the said set of resources for transmitting the data packet to the mobile station as discussed in col. 2, line 38 – col. 3, line 16.

Regarding claim 26, Willars discloses a method of receiving another packet data directed towards the mobile station that includes the packet service quality level indicator and remarking the data packet with the new packet service quality level indicator (see col. 3, lines 17-60, col. 9, line 61 – col. 10, line 49).

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5. Claims 30-35,36-41,45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Willars [US 6,507,567] in view of Einola [US 6,438,370].

Regarding claim 30-35,36-41,45 and 46, Willars as treated in claims 20 and 25 discloses all the limitations as claimed. However Willars does not disclose a method where the processor causes the BSC/PCF to indicate to the PDSN the successful/unsuccessful allocation of resources.

Einola teaches a method where BSC indicates to the SGSN/PDSN the successful allocation of resources. See col. 11, lines 35-46.

Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to include the above teachings of Einola to Willars in order that the SGSN/PDSN is aware of the available resources for further allocation process and for other data packets.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Purnadi [US 6,556,824]      Apparatus and associated method for controlling service degradation performance of communication in radio communication system.

Toskala [US 6,650,905]      UMTS, UTRS, FDD downlink shared channel power control in soft handover.

Cave [US 6,631,269]      Signaling connection admission control in a wireless network.

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- Womack [US 6,438,114] Method and apparatus for enabling multimedia session initiation protocol.
- Li [US 6,567,408] Methods and apparatus for packet classification with multi-level data structure.
- Suumaki [US 6,615,269] Method and arrangement for implementing certain negotiations in a packet data network.
- Wang [US 6,606,311] QoS framework for CDMA 2000
- Li [US 6,661,780] Mechanisms for policy based UMTS and IP QoS management in mobile IP networks.
- Kalliokulju [US 6,618,591] Mechanism to benefit from min and max bitrates.
- Longoni [US 6,631,125] Channel set-up in wideband CDMA systems.
- Rinne [US 6,574,473] Method and system for controlling radio communication network and radio network controller.
- Oz [US 6,434,141] Communication management system and method.
- Roobol [US 6,307,867] Data transmission over a communication link with variable transmission rates.
- Baughner [US 5,819,043] Multimedia resource reservation system.
- Wallentin [US 6,594,238] Method and apparatus for dynamically adapting a connection state in a mobile communication system.
- Forslow [US 6,608,832] Common access between a mobile communication network and an external network with selectable packet-switched and circuit-switched services.
- Kalliokulju [US 6,553,006] Resource allocation in packet-format data transmission.


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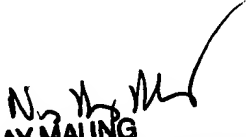
Hanson [US 6,546,425]      Method and apparatus for providing mobile and other intermittent connectivity in a computing environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sujatha Sharma whose telephone number is 703-305-5298. The examiner can normally be reached on Mon-Fri 7.30am - 4.00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

  
Sujatha Sharma  
December 16, 2003

  
NAY MAUNG  
SUPERVISORY PATENT EXAMINER